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June 6, 1994
RP:0160

Ms. Rae M. Loui
Commission On Water Resource Management
Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawaii 96809

Dear Ms. Loui:

Stream Channel Alteration Permit
Honokowai Stream Drainage Collection System
Lahaina, Maui

The referenced document concerns the proposed construction of a subsurface drainage collection system on Lower Honoapiilani Road. The drainage system includes catch basins, grate drop inlets, manholes, and reinforced concrete pipe.

This review was conducted with the assistance of James Parrish, Hawaii Cooperative Fishery Research Unit; and Chris Welch, Environmental Center.

This Stream Channel Alteration Permit (SCAP) identified pertinent features necessary to evaluate potential impacts on Honokowai Stream. Our reviewers suggest that to expedite the review process, a copy of the Checklist for the Preparation of Stream Related Approvals be included in future application packages. The checklist would allow the reviewer to discern what permits are involved and would help to reduce superfluous information that is not needed in the process. The checklist would also add standardization to the Stream Channel Permit reviewing process. Permit applications currently arrive with no standard format, and thus are difficult to assess in a timely manner. Much time must be spent organizing the information before any assessment can take place. A standard format for the application process would reduce much of the time spent on material organization, and allow for better document review.

Environmental Assessment Requirement

In Section IV, Procedural Matters, the included Special Management Area Use Permit (SMA) stated that an EA was not needed for this project. The SMA cited the following definition, under Exemption Class #2, as the condition of exemption:

> Replacement or reconstruction of existing structures and facilities where the new structures will be located generally on the same site and will have substantially the same purpose, capacity, density, height and dimensions as the structure replaced.
>
> This exemption class includes agency actions intended to meet the agency's goals and objectives by replacement in whole or in part, the following, provided there is little or no increase in capacity:
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> 1. Drainage Facilities without historic value.
> 2. Roadways and Traffic Control Devices.
> 3. Utilities Services, including sewer and water.
> 4. Equipment.

This definition is violated by two assertions made in the Engineering Report for Lower Honoapiilani Road Improvements (which was include in the SCAP). Section III(C), Drainage, states that "onsite and offsite storm runoff ponds on Lower Honoapiilani Road and its shoulder and eventually flows across the A/C paved road in a northerly direction." The proposed drainage system, according to section IV(C), Hydrology and Hydraulic Design Criteria, will include a drainline (designated "A") that "will drain in the southerly direction, toward Honokowai Channel, adverse to the finish grade of Lower Honoapiilani Road, which is sloping in the northerly direction." The construction of a new drainage system, which alters the flow of water from its current course into an alternate channel, constitutes a substantial change in the structural dimension of the existing drainage system. This comprises one violation of Exemption Class #2.

Section IV(C) further states that Drainline "A" will be constructed to accommodate 80 percent of the 10-year storm flow for the project area on Lower Honoapiilani Road. According to Exemption Class #2, only those alterations that have essentially the same capacity as the original are allowed exemption status in this class. Although no figures are given in Section III(C) for the capacity of the two current subsurface systems that drain to the dirt ditch near Honokowai Park, it is assumed that this project will represent a substantial increase in subsurface drainage capacity. The increase in drainage capacity constitutes a second violation of Exemption Class #2.

The substantial changes in structural dimension and capacity to the existing subsurface drainage system at the project site on Lower Honoapiilani Road precludes the use of Exemption Class #2 as a defense for not conducting an EA. Thus an EA is fully mandate for this project, triggered by section 11-200-6(b)(1)(A): the use of state or county lands or funds.

Environmental Assessment Included With The Permit

The EA that was included with the SCAP fails to meet the content requirements of Sections 11-200-9, 10, (HAR). With respect to the Honokowai Stream, no information is included regarding the type of stream, stream flow, flora or fauna expected to be found in the stream. Furthermore Section 4, Probable Impacts, does not specifically identify any of the impacts of the proposed construction on the stream. However, an EA done to specification would and should contain all necessary information for judgements about impacts to the stream.

Our reviewers note that the Maui Planning Department's Report to the Planning Commission, section VIII B1(d), Flora and Fauna, quotes the EA regarding endangered species in the project area. However, the EA gives no reference that supports its conclusion regarding endangered species. The alteration of the hydrologic regime may, in fact, have impacts on the near shore waters. No mention of impacts to the marine environment is given.

While the SMA application report generally is comprehensive any reference to the EA supplied with the application should be avoided. Until a full EA which complies with HRS 343 has been completed, the report should rely on relevant information provided by credible sources for the conclusions it draws.

Use of the Rational Method

The Rational Method for calculating storm run-off was used in two documents contained in the SCAP. In both the SMA application report, Section VI, Description Of The Project, and The Engineering Report, Section IV(C), Hydrology and Hydraulic Design Criteria, the Rational Method was cited as the technique to calculate run-off. Our reviewers found that use of the Rational Method for hydrological calculations is outdated, and the results of such calculations are questionable. Better methodologies have been developed for calculating storm runoff. For instance the Soil Conservation Service Runoff Curve table incorporates such factors as land cover and soil type into runoff calculations. These Soil Conservation Service Runoff Curves currently exist for several areas in Hawaii. Until Maui County's requirement to use the Rational Method is changed, perhaps both the Rational and Soil Conservation Service methods could be incorporated to give more accurate and credible results.

10-Year Flood Liability

As noted above, under Environmental Assessment, the Engineering Report (Section IV) states that Drainline "A" will be made to accommodate only 80 percent of the 10-year storm flow. The reasoning given was: "additional catch basins needed to intercept such a [10-year] flow would have made the appearance of the road unsightly and the cost of the project prohibitive."

Two concerns need to be clarified at this juncture. First, if the Rational Method was used to calculate the potential 10-year storm run-off, then the results of this calculation are questionable (see the previous section). The calculations for the 10-year storm flow need to be redone. Secondly, the fact that the county is only mitigating 80 percent of a potential flood situation is of great concern. If, in the event of recurrent flooding, it is shown that the county has inadequately protected its constituency, liability considerations are extremely serious. Potential ramifications of severe flooding include legal actions by citizens who have been harmed by negligence. The cost of such action could include the upgrade of the system at fault (i.e. the subsurface drainage that only works at 80 percent capacity). The costs and benefits of doing a more comprehensive remedial design should be carefully weighed before public funds are invested in a venture that may be insufficient.

Thank you for the opportunity to comment on this Stream Channel Alternation Permit.

Sincerely,

John T. Harrison
Environmental Coordinator

cc: OEQC
Roger Fujioka
Jacquelin N. Miller
Chris Welch